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THE NEED FOR A HIGH-QUALITY MASS-PRODUCED SOVIET RECEIVER

S. Ignat'yev

The popular mass-produced receiver, the Rekord, had certain structural defects in its early models which affected its efficiency and power consumption. Radio called attention to these defects and suggested measures for eliminating them.

Thereafter, the factory made some changes in this receiver and put out the Rekord-47 in which some of the structural defects were eliminated. Finally, at the end of 1949 production of the Rekord was stopped, and the industry began to put out two new mass-produced receivers, the ARZ-49 and the Moskvich.

The Moskvich is a small, compact receiver, cheaper than the ARZ-49, well-constructed, with good cabinet design. Unfortunately, it has annoying defects and drawbacks which are, perhaps, more serious than those in the early Rekord models. Yet, the Rekord was the first mass-produced model, designed during the war and produced immediately afterwards. The Moskvich, on the other hand, was designed in 1949 when industry had acquired a great deal of experience in producing many types of broadcast receivers. Unfortunately, the designers have not made good use of their time and experience.

In spite of its satisfactory appearance and compactness, the Moskvich has defects which result in early breakdowns impairing its performance. Moreover, these defects might easily have been eliminated in the first models.

Experience has shown that the Moskvich cannot receive from the usual antenna unless the antenna is very highly insulated with respect to ground; otherwise, a strong AC hum will occur. Moreover, if the antenna is accidently grounded, it may cause a breakdown of the receiver because one wire of the electric line is directly connected with the chassis. This difficulty might have been avoided by connecting the receiver and antenna indirectly through a fixed condenser of low capacitance. It would appear essential to apply this very simple method of protection.

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The second important defect of the Moskvich is the unsatisfactory arrangement of certain of its parts. In particular, the variable condenser unit and the IF circuit are so close together that it is hardly possible to put one's hand into the free space between them. Moreover, one of the tubes is located behind the above-mentioned circuits in the depths of the receiver. Neither the condenser unit nor the IF coils have any shielding. The owner of the receiver who reaches for the above-mentioned tube will unavoidably brush against the condenser plates or against the IF coils. This often causes a short circuit in the capacitor plates or a break in the coil terminals. At first glance this may seem to be a small defect, but it often causes breakdowns in the receiver.

Another weak spot in the receiver is the power unit; there are frequent causes of breakdown in the selenium stack and electrolytic filter condensers. The condensers often burst. This kind of breakdown, according to repairmen, occurs frequently and is characteristic of the Moskvich.

These defects must be remedied immediately by introducing design changes. Shields should be provided for the variable condenser unit and the IF coils. Perhaps the simplest solution would be to transfer these circuits to the place now occupied by the tube and locate the tube at the back edge of the chassis. In changing or testing the tube it would no longer be necessary to stick one's hand deep down in the receiver. As a result, one of the chief causes of short circuits in the condenser and breakage of the coil terminals would be eliminated.

The electrical properties of the selenium rectifier must be improved and the number of cells in the stack increased. It should be borne in mind that all Moskvich owners do not have the services of expert repairmen at their disposal and that the selenium units used in these receivers are not always on sale. Consequently, if these rectifiers get out of order quickly, many of these receivers may soon be inoperative. The Ministry of the Communications Equipment Industry must see to it that these selenium units are made available for retail sales in the near future.

The attention of the factory must be called to the fact that the plastic cabinet of the Moskvich splits if it is accidentally hit. Steps must be taken to strengthen the cabinet and to furnish repair shops with spare ones.

A modern mass-produced receiver must be cheap, durable, good looking, and have satisfactory electrical and acoustical properties. It must be reliable, simple to operate, and have a long service life.

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